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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,501	05/23/2006	Petrus Christianus Maas	NL 031427	2333

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EXAMINER	
DISTEFANO, GREGORY A	

ART UNIT	PAPER NUMBER
2176	

MAIL DATE	DELIVERY MODE
12/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,501	MAAS, PETRUS CHRISTIANUS	
	Examiner	Art Unit	
	GREGORY A. DISTEFANO	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 May 2006* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to the Request for Continued Examination filed on 11/3/2008.

2. As per applicant's amendment, claims 1-15 are currently pending.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/6/2008 has been entered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4, 8-10, 12, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen et al. (2002/0097239), hereinafter Allen, in view of Gilligan et al. (US 5,374,942), hereinafter Gilligan.

6. As per claims 1 and 8, Allen teaches the following:

an input for receiving the image data set, (pg. 2, paragraph [0014]), i.e. the storage system 12 will include a plurality of storage locations which may be divided into a program storage 16 for storing programs for execution and a data storage 16 for storing data. From this teaching of Allen it is clear that in order for the memory to contain such data, the system must possess an input device to place the data in memory;

a memory for storing the image data set, (pg. 2, paragraph [0014]), i.e. the storage system 12 will include a plurality of storage locations which may be divided into a program storage 16 for storing programs for execution and a data storage 16 for storing data;

an interface for receiving instructions from a user, the interface comprising a manipulation unit, (pg. 2, paragraph [0017]), i.e. the user can, through the user interface 13, identify particular regions of the object 21 to be displayed through commands issued through the user interface 13;

a processor for, under control of a computer program, (pg. 2, paragraph [0016]), i.e. the debugger program 20 enables the processor 11 to display selected regions of the object 21 to the user on display 14;

determining the subset, by selecting images which for the at least one attribute of the set have values in the respective subrange and which also have the value for the additional attribute, (pg. 3, paragraph [0023]), i.e. the processor 11 enables

the display 14 to display in video screen 30 the numerical values of the portion of the object 21 selected as indicated by the sliders 32 and 33;

generating a view of the subset of images, (pg. 3, paragraph [0023]), i.e. the processor 11 enables the display 14 to display in video screen 30 the numerical values of the portion of the object 21 selected as indicated by the sliders 32 and 33;

an output for providing pixel values of the view for rendering on a display (34), (pg. 3, paragraph [0023]), i.e. the processor 11 enables the display 14 to display in video screen 30 the numerical values of the portion of the object 21 selected as indicated by the sliders 32 and 33. The examiner would like to further make note of paragraph [0028] on pages 3 and 4 which discusses pixel values.

However, Allen does not explicitly teach of a method of scrolling in three dimensions without the use of a slider. Gilligan teaches the following:

enabling a user to select a respective subrange of the range of values by scrolling substantially parallel to a horizontal x-axis without use of a slider or a vertical y-axis of a display via the manipulation unit without use of a slider, (column 1, lines 13-25), i.e. the features of the disclosed mouse are achieved by a structural improvement over a conventional mouse, consisting in including a spring loaded supplementary control signal that can be varied in magnitude and sign to control the scrolling rate and heading respectively. The structural improvement is combined with an operational method for setting the scrolling axis to a plurality of Options (i.e., the "x", y" or "z" axis), at the same time the cursor is moved;

enabling a user to select a value for the additional attribute by scrolling substantially parallel to an imaginary z-axis positioned between the x-axis and the y-axis via the manipulation unit without use of a slider, (column 1, lines 13-25), i.e. the features of the disclosed mouse are achieved by a structural improvement over a conventional mouse, consisting in including a spring loaded supplementary control signal that can be varied in magnitude and sign to control the scrolling rate and heading respectively. The structural improvement is combined with an operational method for setting the scrolling axis to a plurality of Options (i.e., the "x", y" or "z" axis), at the same time the cursor is moved;

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Allen's three dimensional visualization system with the three dimensional scrolling system of Gilligan. One of ordinary skill in the art would have been motivated to have made such modifications because both Allen and Gilligan are analogous art in the field of scrolling in three dimensions. Furthermore, Allen teaches in page 1, paragraph [0014], that a user input device may include "a pointing device such as a mouse" and Gilligan's system is directed to such a mouse.

7. Regarding claim 2, modified Allen teaches the system of claim 1 as described above. Allen further teaches the following:

the manipulation unit comprises a pointer device and the imaginary z-axis is being realized in a line extending between the x-axis and the y-axis, (pg. 1, paragraph

[0014]), i.e. a user interface 13 for receiving input from a user via, for example, a keyboard and a pointing device such as a mouse.

Regarding applicant's limitation of the imaginary z-axis, this may be seen in Fig. 4A where axis 3 is extending in a z direction in between axes 1 and 2.

8. Regarding claim 3, modified Allen teaches the system of claim 1 as described above. Allen further teaches the following:

a mouse pointer is provided for providing visual feedback during selection of the subranges or the value of the additional attribute, (pg. 1, paragraph [0014]), i.e. a user interface 13 for receiving input from a user via, for example, a keyboard and a pointing device such as a mouse.

9. Regarding claim 4, modified Allen teaches the system of claim 1 as described above. Allen further teaches the following:

an indicator is provided for indicating along which of the three axes scrolling is possible, (pg. 2, paragraph [0020]), i.e. the large square slider 32, in conjunction with the numbers "2" and "3" in boxes situated to the left of the slider 32 and the slider 33 with the number "1" in the box situated to the left of slider 33, indicates that the object 21 whose data is to be used in the display is an object comprising an array whose elements are organized in three dimensions, that is, an object, such as an array in which each element of data is identified by a coordinate value along three axes.

10. Regarding claim 9, Allen teaches the following:

*a computer program stored on a computer readable medium operative to cause a processor to perform the method of claim 8, (*pg. 2, paragraph [0016]), i.e. the debugger program 20 enables the processor 11 to display selected regions of the object 21 to the user on display 14.

11. Regarding claims 10 and 13, modified Allen teaches the system of claims 1 and 8 as described above. Allen further teaches the following:

the image data set is related to medical applications. Allen anticipated their system to be utilized in medical applications as may be seen in their showings of Figs. 3B and 3C.

12. Regarding claims 12 and 15, modified Allen teaches the system of claims 1 and 8 as described above. Allen further teaches the following:

the processor is arranged for, under control of the computer program, generating a view of an indication indicating potential directions for scrolling, (pg. 2, paragraph [0020]), i.e. the large square slider 32, in conjunction with the numbers "2" and "3" in boxes situated to the left of the slider 32 and the slider 33 with the number "1" in the box situated to the left of slider 33, indicates that the object 21 whose data is to be used in the display is an object comprising an array whose elements are organized in three dimensions, that is, an object, such as an array in which each element of data is identified by a coordinate value along three axes.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over modified Allen as applied to claim 1 above in view of Dobbelaar (US 6,538,672).

14. Regarding claim 5, modified Allen teaches the system of claim 1 as described above. However, Allen does not explicitly teach a method where the attributes represented by each of the three axes may be configured. Dobbelaar teaches the following:

a configuration dialog is provided for configuring which attributes are represented by each of the three axes, (column 7, lines 50-53), i.e. the user may be allowed to assign another program attribute to the axis 21, e.g. using on-screen display menus, which is a well known way in the art for changing system parameters.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the graphical representation method of Allen with the axis attribute setting method of Dobbelaar. One of ordinary skill would have been motivated to have made such modifications because both Allen and Dobbelaar are analogous art in the field of arranging data according to multiple axes on a display. Furthermore, as Allen describes on pg. 3, paragraph [0022], that an object element may have any number of dimensions, each associated with an axis. It would have been obvious to one of ordinary skill to present the user with a means to select which dimensions to present. As Dobbelaar teaches in column 7, lines 52-53, using on-screen display menus was a well known skill in the art for changing system parameters.

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over modified Allen as applied to claim 1 above in view of Gargi (US 6,915,489).

16. Regarding claim 6, modified Allen teaches the system of claim 1 as described above. However, Allen does not explicitly teach a method where an attribute is periodically increased or decreased. Gargi teaches the following:

the processor is arranged for, under control of the computer program, changing the subset by periodically increasing or decreasing the value of an attribute of the set or the value of the additional attribute, (column 5, lines 25-27), i.e. by positioning the cursor 62 in alignment with the incrementing icon 68 for a set period of time, a second stack will be presented to the user; and

changing the view according to the changed subset, (column 5, lines 25-27), i.e. by positioning the cursor 62 in alignment with the incrementing icon 68 for a set period of time, a second stack will be presented to the user.

It would have been obvious to one of ordinary skill in the art would have modified the data navigation method of Allen with the periodic transition method of Gargi. One of ordinary skill in the art would have been motivated to have made such modifications because Allen and Gargi are analogous art in the field of visualizing and arranging data in multiple dimensions. While Gargi's method is chiefly focused to that of image browsing, Allen shows that there method may also be directed towards images in their showings of Figs. 3b-3e. Gargi may be interpreted as a two dimensional array in that each "stack" of images presented to the user has a specific order of images. Therefore,

the image data is organized in stack number and position within that stack. This is very similar to Allen's method as shown in Fig. 4A where elements are organized in a plane number and position in that plane.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over modified Allen as applied to claim 1 above in view of Takabayashi et al. (US 2003/0158476), hereinafter Takabayashi.

18. Regarding claim 7, modified Allen teaches the system of claim 1 as described above. However, Allen does not explicitly teach a method where the images are periodically changed with respect to a further attribute. Takabayashi teaches the following:

the processor is arranged for, under control of the computer program, periodically increasing or decreasing a value of a further attribute of each image, said value not being selectable by scrolling substantially parallel to one of the three axes, (pg. 4, paragraph [0050]), i.e. Fig. 6 shows the flow of monitor scanning and imaging scanning according to an embodiment of the invention. Once the contrast agent has been injected, monitor scanning starts. During monitor scanning, the monitor images are updated successively at a display rate of one frame per second; and

changing the view according to the changed value, (pg. 4, paragraph [0050]), i.e. Fig. 6 shows the flow of monitor scanning and imaging scanning according to an embodiment of the invention. Once the contrast agent has been injected, monitor

scanning starts. During monitor scanning, the monitor images are updated successively at a display rate of one frame per second.

The examiner interprets Takabayashi's teaching of updating an image based on time to encompass applicant's claim in that, upon the modification of Allen in view of Takabayashi, time would be a fourth dimension and thus not be selectable by scrolling the other three axes.

It would have been obvious to one of ordinary skill in the art to have modified the three dimensional display of Allen with the time dependent display of Takabayashi. One of ordinary skill in the art would have been motivated to have made such modifications because both Allen and Takabayashi are analogous art in the field of presenting images in a three dimensional environment (see Takabayashi Fig. 4). Furthermore, both arts show similar methods of placing elements in sets of planes as may be seen in Allen's showing of Fig. 4A and Takabayashi's showing of separate slices of a MIP image as shown in Figs. 4b and 4c.

19. Claims 11 and 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over modified Allen as applied to claims 1 and 8 above in view of Sezaki et al. (US 6,078,313), hereinafter Sezaki.

20. Regarding claims 11 and 14, modified Allen teaches the system of claims 1 and 8 as described above. However, Allen does not explicitly teach a method where the scroll speed is increased if the scrolling is maintained. Sezaki teaches the following:

the processor is arranged for, under control of the computer program, increasing the selected subrange at a faster rate than initially if the scrolling is maintained, (column 10, lines 35-40), i.e. the second period may be set longer than the first period, or the second period need not be a fixed period. For example, when the second period is set to gradually shorten, the scroll speed can be gradually increased with an increase in the elapse of click-on time.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the three dimensional scroll method of Allen with the gradual scroll speed increase of Sezaki. One of ordinary skill would have been motivated to have made such further modifications because all of Allen, Gilligan, and Sezaki are analogous art in the field of scrolling data.

Response to Arguments

21. Applicant's arguments filed 10/6/2008 have been fully considered but they are not persuasive. Applicant's arguments will be addressed in the order in which they were presented.

22. Applicant first argues on pages 9 -10 that "Gilligan fails to teach scrolling in a direction of the z-axis".

The examiner respectfully disagrees.

Applicant directly concedes in page 10 of their amendment that:

"While Gilligan does show scrolling within three axis of data, it does so by recognizing patterns of movement of the mouse wherein x-axis and y-axis scrolling is provided by moving the mouse in a direction of the x or y axis. However, **scrolling in a z-axis is provided** by scrolling in a circular pattern (see, Gilligan, Col. 8, lines 1-6). **Gilligan does not show scrolling in a direction of the z-axis** and in fact teaches away from this by providing teaching of the circular scrolling pattern."

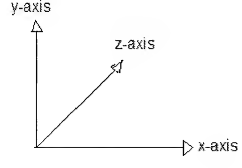
(emphasis added)

Therefore, by applicant's own submission, Gilligan does in fact teach scrolling in a z-axis.

23. Applicant next argues on pages 10 and 11 of their amendment, that neither Allen nor Gilligan teaches or suggests "enabling a user to select a value for the additional attribute by scrolling substantially parallel to an imaginary z-axis positioned between the x-axis and the y-axis via the manipulation unit without use of a slider"

The examiner again respectfully disagrees.

As may be seen in Allen's Figure 4a, Allen's data objects are arranged along axes as such:



Thus showing that the z-axis is positioned between the x-axis and the y-axis. Gilligan teaches that this axis may be scrolled by moving a pointer in a circular patter (col. 8, lines 1-6). Therefore, upon the modification of Allen in view of Gilligan, one would arrive at "enabling a user to select a value for the additional attribute by scrolling substantially parallel to an imaginary z-axis positioned between the x-axis and the y-axis (Allen) via the manipulation unit without use of a slider (Gilligan)". Furthermore, applicant states in their disclosure on page 2, lines 8-10, that scrolling columns or rows is usually done by respectively moving a pointer device, such as a mouse or joystick, substantially parallel to a horizontal x-axis or a vertical y-axis of a display. Scrolling is often done by means of Direct Mouse Manipulation, which is Moving a mouse over the image in the desired scroll direction, possibly while holding don one of the mouse buttons." Gilligan teaches of such a DMM method.

The examiner would like to further note that the pattern in which the cursor of Gilligan is moved in order to scroll the z-axis would not change the functionality of their method. As may be seen in their teaching in column 1, lines 25-29, their method is based on a program that recognizes the trail pattern of a cursor movement. One of ordinary skill in the art would have seen it as obvious that the recognizable trail patterns of Gilligan are simply a design choice of the creator.

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

-Wang (US 5,936,612), computer input device and method for 3-D direct manipulations of graphic objects.

-Wang (US 2002/0060663), computer input device for multiple-dimensional control.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY A. DISTEFANO whose telephone number is (571)270-1644. The examiner can normally be reached on Monday through Friday, 9 a.m. - 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached on 571-272-4137. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GREGORY A DISTEFANO/
Examiner, Art Unit 2176
12/22/2008

/Rachna S Desai/
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